Panasonic

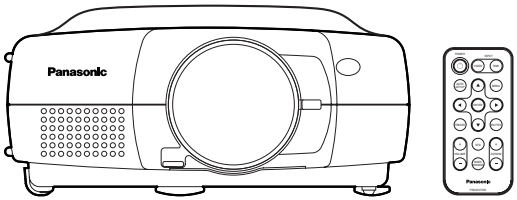
LCD Projector

Commercial Use

Operating Instructions

(Wireless Function)

PT-L502/712E/NTE



- This LCD projector is equipped with a wireless card function. These Operating Instructions contain information on how to set up the wireless function, and on how to capture and transmit images. Please refer to the separate PT-L712E Operating instructions for details on how to use the LCD projector.
- Please read the “Read this first” booklet, these Operating Instructions and the Operating Instructions for the PT-L712E LCD projector before use. After reading these instructions, keep them in a safe place for later reference.
- The screen images which appear in this manual were taken from pre-release versions of the software. Actual screen images may differ from those shown.

TQBH9002-3

GBR

Contents

Dear Panasonic Customer:.. 3
Safety Precautions 3
Notes with regard to the wireless card and the projector. 3
Radio frequencies used by the wireless card 4
Available channels 5
Check accessories 6
Names of each part 6
Wireless image transfer system for the projector.... 7
Notes on using the projector9
Explanation of terms 10
Wireless function preparation 14
Installing and removing the wireless card..... 18
Inserting the wireless card 18
Removing the wireless card.....19
On-screen menus 20
List of menu screens.....20
Projector LAN settings..... 21
STATUS 21
LOCK SETUP 22
SETUP 22
Setting up the computer wireless card..... 27
Installing and removing the computer's wireless card.....27
Installing the driver.....28
Checking the protocol 31
Installing the Configuration Utility 35
Using the Wireless Manager 36
Wireless Manager capabilities 36
Starting and closing the Wireless Manager.....36
Computer network settings 37
Checking communication with the projector.....40
Basic image transmission examples.....41
Before transmitting images.....42
Capturing and transmitting computer screen images.....42
Transmitting existing images.....47
Other useful Wireless Manager functions 50
Using JPEG Convertor..... 52
What JPEG Convertor can do.... 52
Starting JPEG Convertor.....53
Main screen functions 53
Importing presentation files created using Microsoft PowerPoint 54
Importing JPEG, BMP and TIFF files created using other applications 56
Importing files using drag-and-drop 56
Checking, sorting and deleting images.....57
Conversion settings for saving images.....58
Saving to other folders 59
DCF standard 60
Using the SERIAL connector 61
Message List..... 61
Before asking for service... 61
Specifications 64
Trademark Information..... 67
Dimensions..... 67

Dear Panasonic Customer:

These instructions provide all the necessary operating information that you may require. We hope it will help you get the best performance from your new product, and that you will be pleased with your Panasonic LCD projector.

Safety Precautions

Caution

Do not insert any foreign objects into the card slot.

- Inserting foreign objects may damage the projector. If the wireless card is inserted while some foreign object is inside the slot, it may damage the wireless card.

Notes with regard to the wireless card and the projector.

Caution

Before touching the wireless card, make sure that you earth your body to dissipate any static electric charge that might damage the card.

- Static electricity from the human body can damage the wireless card. To prevent this, you should touch a nearby metallic object such as an aluminium sash or a door knob to dissipate the static charge from your body.

Do not install the accessory wireless card to any device other than the card slot of the projector.

- If this is not observed, damage to the device may result.

Radio frequencies used by the wireless card

The accessory wireless card and the optional wireless card (ET-CDWL1 series) operate on electronic frequencies within the 2.4 GHz band. You do not need a radio licence in order to use a wireless card, but you should make sure that you understand the following points before using such cards.

Do not use the cards near other sources of radio emissions.

The following devices may use the same frequencies that are used by the wireless card. If the wireless card is used near such devices, radio interference may prevent successful communication, or it may result in slower communication speeds being achieved.

- Industrial, scientific, medical equipment, etc
- Electric stoves, etc
- Built-in radio devices used for identifying moving equipment in industrial production lines
- Certain low-power radio devices

Keep the wireless card as far away as possible from devices such as mobile telephones, TVs and radios when using such devices

Devices such as mobile telephones, TVs and radios use different frequencies from the wireless card, so that there will be no effect on either wireless card communication or on reception or transmission for such devices. However, radio emissions from the wireless card may cause video or audio interference.

Radio emissions from the wireless card will not travel through steel framework, metal sheets or concrete.

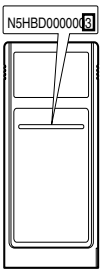
The radio emissions from the wireless card will pass through materials such as wood and glass (except for glass which is reinforced with metal fibres), so that communication is possible because the signals can pass through walls and floors which are made from these materials. However, the radio emission cannot pass through materials such as steel frames, metal sheets and concrete, so that communication is not possible because the signals cannot pass through walls and floors which are made from such materials.

Available channels

The channels (frequency bandwidth) that are available for the wireless card to use will vary depending on the country or area where the wireless card is being used. Refer to the following table as a guide.

Country / Area	Certification	Last digit of card number *	Operating channels	Frequency band (median frequency)
Japan	ARIB STD33 & T66	1	1~14	2412 MHz ~ 2484 MHz
USA	FCC part 15	2	1~11	2412 MHz ~ 2462 MHz
Canada	IC			
Taiwan	DGT			
Malaysia	SIRIM			
UK, Germany, France, Italy, Belgium, Austria, Sweden, Norway, Denmark, Switzerland, Holland, Finland, Portugal, Greece, Thailand, Korea, Australia, New Zealand	ETSI 300.328	3	1~13	2412 MHz ~ 2472 MHz
Spain	ETSI 300.328	4	10,11	2457 MHz ~ 2462 MHz
Singapore	IDA	5	10~13	2457 MHz ~ 2472 MHz

* To check the region of intended use for the wireless card which you have purchased, check the last digit of the product number which appears on the label on the reverse side of the card in the position shown in the illustration at right.

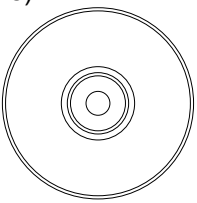
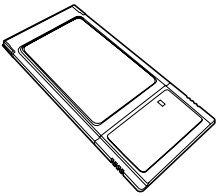


Note:

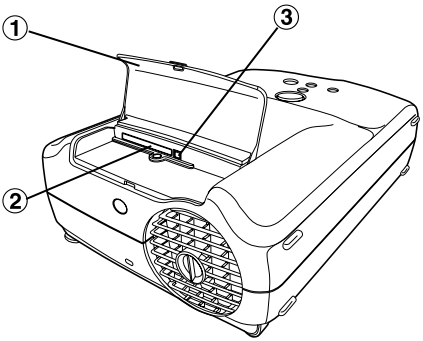
- The wireless card cannot be used in countries other than the country of purchase. If you try to use it in other countries, you may be infringing the radio transmission laws and regulations of that country.

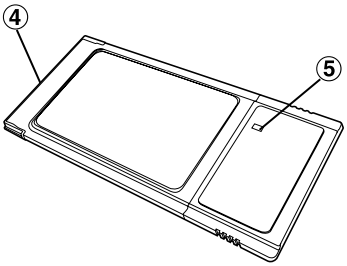
Check accessories

The following accessories are included with the projector, in addition to the accessories which are listed in the separate Operating Instructions.

CD-ROM ... 1 pc. (Wireless Manager, Driver, Configuration Utility, JPEG Convertor, Operating Instructions) 	Wireless Card ... 1 pc. 

Names of each part





Wireless card slot

① Slot cover
Covers the card slot.

② Card slot
Insert the wireless card into here.

③ Eject switch
Use to remove the wireless card from the card slot.

Wireless card

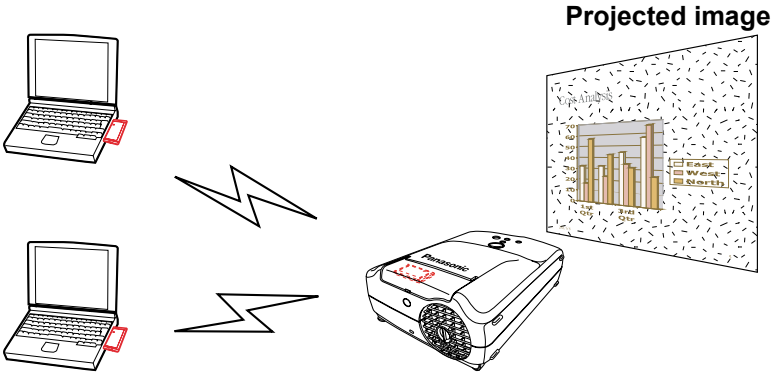
④ Connector
This connector is for connecting the wireless card to the projector's card slot. Be careful not to touch the connector.

⑤ Wireless card power monitor
Illuminates when the wireless card is operating.

Wireless image transfer system for the projector

This system is designed to let you project images for presentations and other purposes by transmitting images that appear on a computer screen to the projector. This is possible by inserting the specified wireless cards into the projector and into the computers that are to be used. More than one computer can be connected to the projector in this way.

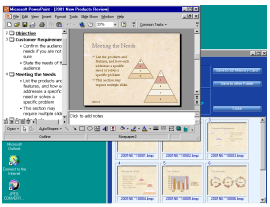
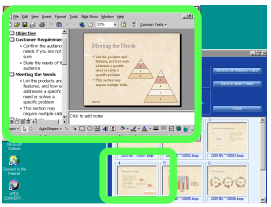
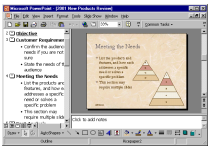
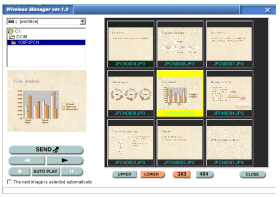
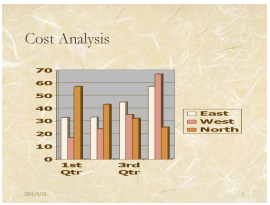
System diagram



Note:

- An optional wireless card (ET-CDWL1 series) must be inserted into the computer(s).

Transferable images

	Computer screens	Projection images
① Screen shots of a whole computer screen		
② Screen shots of the active window on a computer screen		
③ Screen shots of specified areas of a computer screen		
④ BMP, JPEG and PNG images		

Main functions of the application software

Software	Functions
Driver	• Basic software for carrying out wireless communication with a optional wireless card connected to a computer
Configuration Utility	
Wireless Manager	• Storing multiple network settings • Capturing computer screen images and sending the images to the projector • Selecting images from a list and transferring them to the projector • Automatic playback
JPEG Convertor	• Converting Microsoft PowerPoint files to DCF-compliant JPEG images • Converting JPEG, BMP and TIFF images to DCF-compliant JPEG images • Sorting images • Converting images sizes and compression ratios

Notes on using the projector

The following points must always be observed.

- Do not drop the projector or subject it to strong shocks.
- Do not let the projector get wet.
- Do not use unnecessary force to open and close the slot cover.
- Do not use wireless cards which are cracked or bent.
- Do not use the projector in places with high humidity such as bathrooms, or in places which are very dusty such as warehouses.

Please make sure that you understand the following before using the wireless card.

- Panasonic shall not be liable for any direct or indirect losses which may be incurred as a result of using this product or from any malfunction of this product.
- Panasonic takes no responsibility for any loss or corruption of data caused by this product.
- Panasonic takes no responsibility for any unauthorized disclosure of data transmitted by means of this product.

Explanation of terms

The following terms appear throughout these Operating Instructions, and are defined here for easy reference.

LAN
Abbreviation for Local Area Network. A network which is small in scale, such as an intra-company network. Both wired LANs and wireless LANs can be found. This projector uses a wireless LAN.

TCP/IP
Abbreviation for Transmission Control Protocol/Internet Protocol. The standard protocol for the Internet.
A protocol is a set of specifications and agreements which allow two computers to communicate with each other.

IP Address
An Internet Protocol (IP) is a protocol used for the transmission of data, and the IP address is the address of the destination where the data is being sent to. Identical IP addresses cannot be used for two different devices within the one LAN.

Subnet Mask
Limits the range of IP addresses that can be assigned to a computer when using a TCP/IP connection, in order to allow a network to be divided into several sub-sections. The parameters which divide the sub-network in this way are called the subnet mask.

Gateway
A junction point where different types of networks are connected to each other.
It is used to refer to the hardware and software which is used when connecting a particular network to another network which has been set up under different network specifications. It makes adjustments for differences in the protocols used by the two networks and makes it possible to connect to other networks.

DHCP
Abbreviation for Dynamic Host Configuration Protocol. A function which automatically assigns IP addresses to each computer that is connected to a network. If a device which functions as a DHCP server is located within a LAN, this device automatically assigns IP addresses to computers which are connected to the LAN. Not available with this product.

Ad Hoc Mode
A mode for direct communication between the projector and a computer with an optional wireless card.

Infrastructure Mode
A mode for communication via an access point which is connected to a wired LAN.
A computer without an optional wireless card can still be used to send images to the projector via an access point.

Access Point
A point of connection between a wired LAN and a wireless LAN.

Channel
If several access points which use the same frequency band are located near each other, radio transmission interference between these access point can occur when they are being used, and this can in turn result in drops in transmission speeds. In order to reduce this problem when using wireless LANs, the frequency band can be divided into 13 channels for communication purposes. (The number of channels varies depending on the country.) However, because interference between adjacent channels can occur, the channels available for use are normally spaced 2 or 3 channels apart from each other.

SSID
Abbreviation for Service Set ID. Wireless LANs that utilise access points require the setting of SSID identification codes in order to distinguish between devices which are a part of the LAN and devices which are not.

WEP
Abbreviation for Wired Equivalent Privacy. A method of encrypting transmitted data. An encryption key is generated and is given only to the person who will be using the transmitted data, in order to prevent third parties from decoding the transmitted data. Not available with this product.

JPEG
Abbreviation for Joint Photographic Experts Group. JPEG is the name of an international organisation which was jointly established by the ISO and the ITU-TS (formerly the CCIT), but the term is normally used to refer to the specifications for the still picture compression algorithm which was formulated by the JPEG. This algorithm allows still images such as photographs, single frames of moving images and scanned images to be compressed to up to 1/100th of their original sizes. However, images which are compressed in this way cannot be fully restored to their original quality (some deterioration in quality occurs), so that compression rates of 1/5 to 1/30 are normally used. Because of differences in colour separation, two format sub-types are used: RGB (red, green and blue) and CMYK (cyan, magenta, yellow, black).
The projector and the JPEG Convertor software do not support the CMYK sub-type of JPEG file.

BMP
Abbreviation for BitMaP. This is the standard image format for the bitmapped files (image files consisting of a collection of dots) which are handled by Windows.
Colour levels of monochrome, 16 colours, 256 colours and 16.7 million colours are supported.

PNG
Abbreviation for Portable Network Graphics.
A high compression rate file format that provides restorable compression for line raster images.
Because it uses restorable compression, it does not result in any loss of image resolution unlike JPEG.

RLE
Abbreviation for Run Length Encoding. It can be used to achieve high rates of compression for image files which contain large areas of a single colour. RLE can be used with monochrome, 16-colour and 256-colour BMP image files. (JPEG Convertor does not support files compressed using RLE.)

TIFF
Abbreviation for Tagged-Image File Format. This type of file is used to exchange documents between computers. Colour levels of monochrome, 256 colours and 16.7 million colours are supported. TIFF files in 16.7 million colour format can include transparent colour.

LZW
Abbreviation for Lempel-Ziv-Welch. LZW is a compression method used for TIFF files, and is named thus because it was developed by three people named Lempel, Ziv and Welch. It compresses the files by converting patterns within the images into short codes. There is no deterioration in image quality resulting from compression, but high rates of compression which are comparable to JPEG files cannot be expected to be obtained. (JPEG Convertor does not support files compressed using LZW.)

DCF
Abbreviation for Design rule for Camera File system. DCF is a standard which was established by the Japan Electronic Industry Development Association (JEIDA) with the aim of realising a common image file format, directory name format and file name format for the images used with digital still cameras. It is based on recommendations such as Exif Version 2.1.

Exif 2.1
Abbreviation for Exchangeable Image File Format. This is an image file format which was established by the Japan Electronic Industry Development Association (JEIDA). It defines the common information format and range of application for images used with digital still cameras, centring around TIFF and JPEG-format images. Version 2.1 is the latest version of the Exif standard.

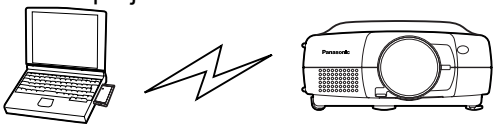
PowerPoint
Application software for creating presentations which is included as part of Microsoft Office. 95, 97 and 2000 versions are available, but the JPEG Convertor software which is bundled with the projector is only compatible with the 97 and 2000 versions.

Wireless function preparation

The methods of transferring images using a wireless LAN can be broadly classified into three types according to the environment you are currently using.

(1) Firstly, when using the wireless function

Insert an optional ET-CDWL1 series wireless card into a computer, and use Ad Hoc mode so that the computer can carry out direct wireless communication with the projector.



Computer **Projector**

Setting procedure

Set the computer and the projector according to the following procedure.

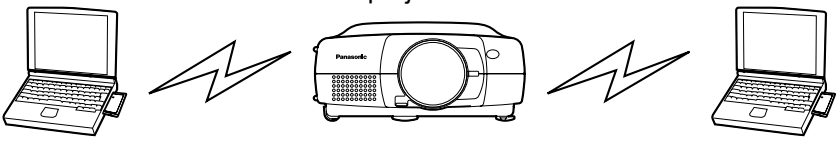
<table>
<tr><th colspan="2">Preparation & settings</th><th>Check communication</th><th>Transmit images</th></tr>
<tr><th><Projector></th><th><Computer></th><th><Computer></th><th><Computer></th></tr>
<tr><td>Inserting the wireless card (page 18)</td><td>Inserting the wireless card (page 27)</td><td rowspan="2">Use Wireless Manager to check communication with the projector (page 40)</td><td rowspan="2">Use Wireless Manager to transmit the images (page 41)</td></tr>
<tr><td>LAN settings (page 21)</td><td>Network settings using Wireless Manager (page 37)</td></tr>
</table>

Setting example

Setting item	Projector LAN settings	Network settings using Wireless Manager at computer
IP ADDRESS	192.168.10.10 (default) If using two or more projectors, use different addresses for each.	Set the address to something like 192.168.10.11 or 192.168.10.12. Do not use the same address as used for the projector.
SUBNET MASK	255.255.255.0 (default)	255.255.255.0
MODE	AD HOC	Ad Hoc
CHANNEL	11 (default) Use the same setting for the computer.	11 Use the same setting for the projector.

(2) If already using computers for wireless transmission (Ad Hoc mode)

Use the existing wireless cards for the computers to carry out direct wireless communication with the projector in Ad Hoc mode.



Setting procedure

Set the computer and the projector according to the following procedure.

Preparation & settings	Check communication	Transmit images
<Projector>	<Computer>	<Computer>
Inserting the wireless card (page 18)	Use Wireless Manager to check communication with the projector (page 40)	Use Wireless Manager to transmit the images (page 41)
LAN settings (page 21)		

Setting example

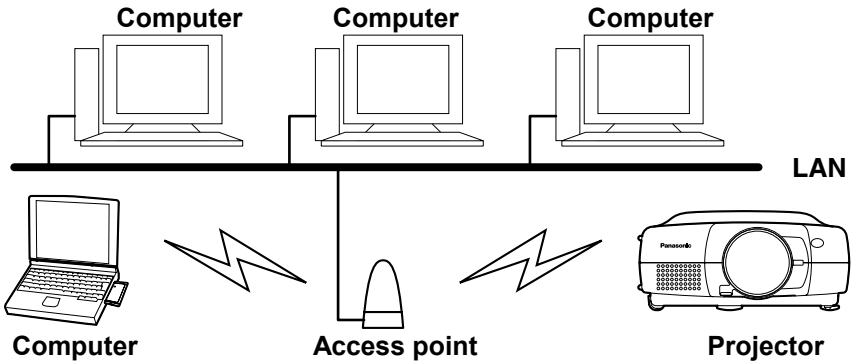
Setting item	Projector LAN settings
IP ADDRESS	Set the computer IP address to an address with the last number different. e.g. If the computer IP address is 192.168.10.11, set the projector's address to something like 192.168.10.12.
SUBNET MASK	Use the same setting for the computer.
MODE	AD HOC
CHANNEL	Use the same setting for the computer.

Note:

- The computer settings can be used without further changes. However, if using the WEP function, communication with the projector will not be possible. You will first need to turn off the WEP function for all computers which are to communicate with the projector.
  Furthermore, when the WEP function is turned off, the data encryption function will also be turned off, so it is recommended that you use a feature such as the Sharing Settings for folders to set password protection for your data. Ask your network administrator for further details.
- If you any wireless cards other than the optional ET-CDWL1 series, correct operation cannot be guaranteed.

(3) When using an existing access point for wireless communication

Use the access point to carry out wireless communication between the computer and the projector in Infrastructure mode. Some access points may not let you make connections.



Setting procedure

Set the computer and the projector according to the following procedure.

Preparation & settings	Check communication	Transmit images
<Projector>	<Computer>	<Computer>
Inserting the wireless card (page 18)	Use Wireless Manager to check communication with the projector (page 40)	Use Wireless Manager to transmit the images (page 41)
LAN settings (page 21)		

Setting example

Setting item	Projector LAN settings
IP ADDRESS	Ask your network administrator for details on settings.
SUBNET MASK	
MODE	INFRASTRUCURE
CHANNEL	Set to the same CHANNEL as the CHANNEL for the access point. (Ask your network administrator for details.)
SSID	Set to the same SSID as the SSID for the access point. (Ask your network administrator for details.)

Note:

- If either the projector or computer is out of the range of the access point, use Ad Hoc mode as described in page 14.

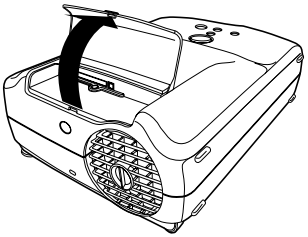
- The projector's SSID can be up to 16 characters in length, and must consist of capital letters (A-Z) and numerals (0-9). Accordingly, if the SSID that has been set for the access point is invalid as an SSID for the projector, ask your network administrator to change the access point's SSID to one that can be used by the projector.
- The projector is not compatible with DHCP. For LANs that use DHCP servers, a fixed IP address needs to be assigned to the projector for it to be used. Ask your network administrator for further details.
- If using the WEP function, communication with the projector will not be possible. You will first need to turn off the WEP function for all computers which are to communicate with the projector.
  Furthermore, when the WEP function is turned off, the data encryption function will also be turned off, so it is recommended that you use a feature such as the Sharing Settings for folders to set password protection for your data. Ask your network administrator for further details.

Installing and removing the wireless card

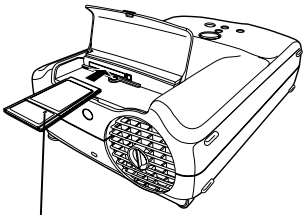
Inserting the wireless card

① Turn off the power supply for the projector.
Turn of the power supply for the projector while referring to “Turning off the power” on page 23 of the PT-L712E Operating Instructions.

② Open the slot cover.



③ Insert the wireless card as shown in the illustration at right.
Hold the wireless card so that the power monitor is facing upward when inserting it, and push it all the way in until it locks.

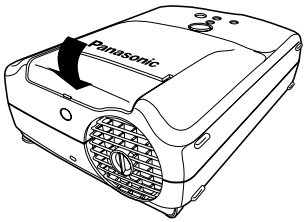


Wireless card power monitor

Note:

- Make sure the wireless card is facing the correct way when inserting it. If you try to force the wireless card the wrong way into the slot, it will damage the wireless card and the projector.

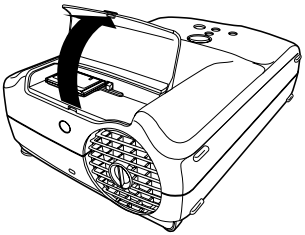
④ Close the slot cover.



Removing the wireless card

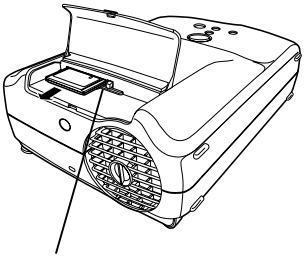
① Turn off the power supply for the projector.
Turn of the power supply for the projector while referring to “Turning off the power” on page 23 of the PT-L712E Operating Instructions.

② Open the slot cover.



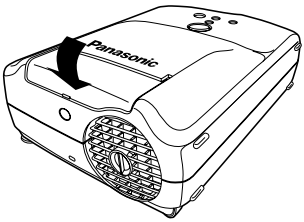
③ Press the eject switch.
When you press the eject switch, it pops out.

④ Push in the eject switch and then remove the wireless card.



Eject switch

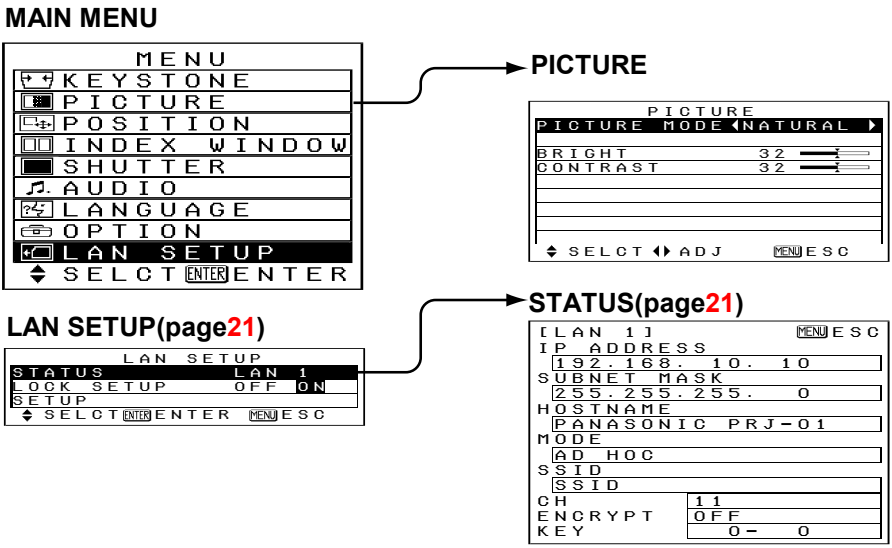
⑤ Close the slot cover.



On-screen menus

List of menu screens

Adjustments and setting changes for this projector are carried out using on-screen menu operations. The configuration for the projector's LAN SETUP menu is shown in the illustration below.



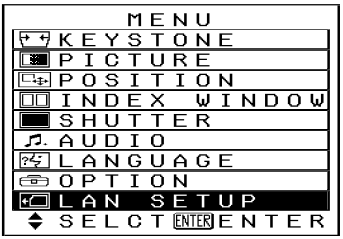
Note:
Please refer to the separate PT-L712E Operating instructions for details on main menu items other than LAN SETUP.

Projector LAN settings

After inserting the wireless card into the projector, you need to make the necessary LAN settings.

Displaying the LAN Setup screen

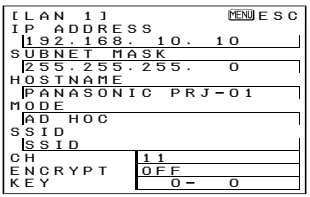
① Press the MENU button. The MAIN MENU screen will be displayed.
② Press the ▲ or ▼ button to select "LAN SETUP".



③ Press the ENTER button. The LAN SETUP screen will be displayed.

STATUS

The projector can store up to five different types of LAN settings. The STATUS command can be used to view the settings which are currently selected.
Press the ▲ or ▼ button on the projector's control panel or the remote control to select "STATUS", and then press the [ENTER] button. The STATUS screen will be displayed.



Note:

- Refer to SETUP on page 22 for details on making the various LAN settings.
- If the CH display appears in red, it means that the selected channel cannot be used. Use the SETUP menu to change the CHANNEL setting.

LOCK SETUP

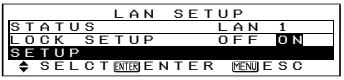
The LOCK SETUP setting is automatically changed to ON after the SETUP function has been used, in order to prevent accidental changes from being made to the LAN settings.
When LOCK SETUP is ON, the SETUP function cannot be used. Before using the SETUP function, you need to change the LOCK SETUP setting to OFF.

Use the ▲ or ▼ button to select “LOCK SETUP”, and then press the ◄ or ► button to change the setting.

SETUP

In order to make it easier to configure the projector’s network settings, the SETUP function displays the following setting screens in order from ① to ⑨.
Before using the SETUP function, use the “SELECT SETUP” menu to select the LAN settings that you would like to make or change. Also check that “LOCK SETUP” is OFF.

Use the ▲ or ▼ button on the projector or remote control unit to select “SELECT SETUP”, and then press the ENTER button to start making the settings.

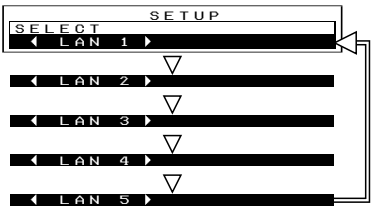


Note:

- When the final settings are made, “WAIT A MINUTE” appears briefly, and then the LAN is reset.
- If you press the MENU button at any time before the final settings have been made, all setting changes will be discarded and the previous settings will be restored.

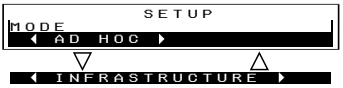
① SELECT

The projector can store up to five different types of LAN settings. This is useful when using the projector in different places with different network environments. Use the ◄ or ► button to select the desired type of setting and then press the [ENTER] button.



② MODE

This can be set to either “AD HOC” or “INFRASTRUCTURE”. If using methods (1) or (2) as described on page 14 of “Wireless function preparation”, set to “AD HOC”. If using method (3) in “Wireless function preparation”, set to “INFRASTRUCTURE”.
Use the ◄ or ► button to change the setting, and then press the ENTER button.



Some of the settings used differ between AD HOC mode and INFRASTRUCTURE mode.

	AD HOC	INFRASTRUCTURE

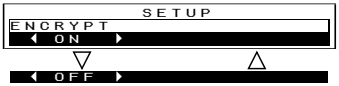
③ Channel

This lets you set the channel. You must set the channel to the same channel that is being used by the wireless card of the transmitting computer.
In INFRASTRUCTURE mode, operation is usually possible regardless of the settings used. However, for some access points, you may need to set the channel to the same channel that is used by the access point, otherwise communication may not be possible.
Use the ◄ or ► button to change the setting, and then press the ENTER button.

Note:

- The channels that can be used will vary depending on the country (page 5).

	AD HOC	INFRASTRUCTURE
④	In Ad Hoc mode, make the “IP ADDRESS” setting in step ⑤ below.	**SSID** If using Infrastructure mode, change the “SSID” setting to the same SSID for the access point that will be used for communication. However, the projector’s SSID can be up to 16 characters in length, and must consist of capital letters (A-Z) and numerals (0-9). Accordingly, if the SSID that has been set for the access point is invalid as an SSID for the projector, ask your network administrator to change the access point’s SSID to one that can be used by the projector. Use the ▲ or ▼ button to change the characters, and use the ◄ or ► button to change the character position. When you have finished, press the ENTER button.
⑤	**IP ADDRESS** This lets you set the projector’s IP address. Refer to page 14 of “Wireless function preparation” while making this setting. However, the projector’s IP address cannot be the same as the IP address that is being used by the transmitting computer. Use the ▲ or ▼ button to change the number position, and use the ◄ or ► button to set the numbers. When you have finished, press the ENTER button. 	

	AD HOC	INFRASTRUCTURE
⑥	**SUBNET MASK** This lets you set the projector's subnet mask. Refer to page 14 of "Wireless function preparation" while making this setting. Use the ▲or ▼ button to set the numbers, and use the ◄ or ► button to change the number position. When you have finished, press the ENTER button. 	
⑦	**HOSTNAME** This lets you set a network name for the projector. The projector's host name can be up to 16 characters in length, and can contain capital letters (A-Z), numerals (0-9) and "-" (hyphen). Use the ▲ or ▼ button to change the characters, and use the ◄ or ► button to change the character position. When you have finished, press the ENTER button. 	
⑧	**ENCRYPT** You can use this function to encrypt the image data. However, when encryption is enabled, it takes longer for images to be transferred. To enable encryption, set to "ON". If set to "OFF", encryption is not carried out. The Wireless Manager encryption settings on page 51 must be carried out. Use the ◄ or ► button to change the setting. When you have finished, press the ENTER button. 	

	AD HOC	INFRASTRUCTURE
⑨	**KEY** This appears when the ENCRYPT setting in step ⑧ is ON. Set an encryption key using a combination of numbers from “0-0” to “255-255”. When an encryption key has been set, you must set the same encryption key for the Wireless Manager (see page 51), otherwise communication will not be possible. Use the ▲ or ▼ button to set the numbers, and use the ◄ or ► button to change the number position. When you have finished, press the ENTER button. 	

Setting up the computer wireless card

When using an optional ET-CDWL1 series wireless card, it must be installed to a computer and the driver software and Configuration Utility must be installed into the computer.

This section describes the method of setting up the optional ET-CDWL1 series wireless card.
If you have already set up your computer's wireless card, you can skip to "Using the Wireless Manager" on page 36.

Setup procedure

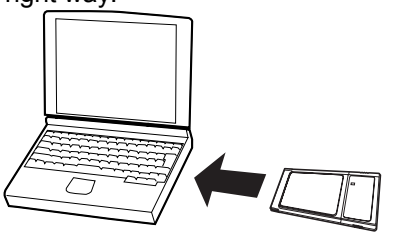
Carry out the following steps in the order given to set up the computer's wireless card.

Install the card. (Page 27) → **Install the driver. (Page 28)** → **Install the utilities. (Page 35)** → **Use Wireless manager to make network settings. (Page 37)**

Installing and removing the computer's wireless card

Installing the wireless card

Hold the wireless card so that the power monitor is facing upward, and insert it into the computer's PC card slot as far as it will go. Make sure that the card is facing the right way.



Computer **Wireless card**

Note:

- Read the documentation provided with the computer at this time also.
- If you try to force the wireless card the wrong way into the slot, it will damage the wireless card and the projector.

Removing the wireless card

① Close Wireless Manager if it is running.

② Left-click on the PC Card icon ( ) on the taskbar at the bottom-right corner of the screen.

Note:

- If the PC Card icon does not appear in the taskbar at the bottom-right of the screen, click “Start”, point to “Settings”, click “Control Panel” and then open “PC Card”. Click the “Show control on taskbar” check box and then click “OK”.

③ Select “Stop Panasonic Wireless Card”.

④ The screen shown at right will appear. Click “OK” to remove the wireless card.

Installing the driver

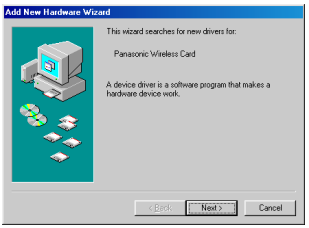
When the wireless card is inserted, the driver installation screen appears. The driver can be found on the CD-ROM which is included with the projector as an accessory.
Install the driver by following the procedure below.

For Windows 98

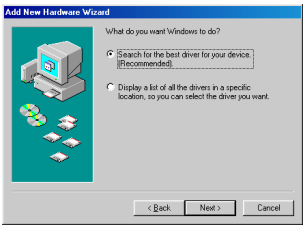
Note:

- The Windows 98 Setup CD-ROM may be needed while the driver is being installed.

① When the wireless card is inserted, the “Add New Hardware Wizard” will start. Click “Next”.


Add New Hardware Wizard
This wizard searches for new drivers for:
Panasonic Wireless Card
A device driver is a software program that makes a hardware device work.
< Back
Next >
Cancel

② Select “Search for the best driver for your device” and then click “Next”.


Add New Hardware Wizard
What do you want Windows to do?
Search for the best driver for your device. (Recommended).
Display a list of all the drivers in a specific location, so you can select the driver you want.
< Back
Next >
Cancel

③ Insert the accessory CD-ROM into the CD-ROM drive of the computer, select “CD-ROM drive” and then click “Next”.

Add New Hardware Wizard
Windows will search for new drivers in its driver database on your hard drive, and in any of the following selected locations. Click Next to start the search.
Floppy disk drives
CD-ROM drive
Microsoft Windows Update
Specify a location:
Browse...
< Back
Next >
Cancel

④ When “netcw10.inf” appears, click “Next”.

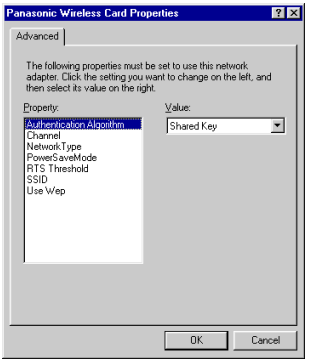
Driver installation will start.

Add New Hardware Wizard
Windows driver file search for the device:
Panasonic Wireless Card
Windows is now ready to install the best driver for this device. Click Back to select a different driver, or click Next to continue.
Location of driver:
E:\NETCW10.INF
< Back
Next >
Cancel

⑤ Click “OK” without changing any of the detailed settings.

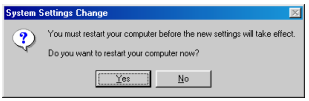
Note:

- Use the Wireless Manager to change the wireless card settings (page 37).



⑥ Click “Finish”.

⑦ Click “Yes”. The computer will then re-start.


System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

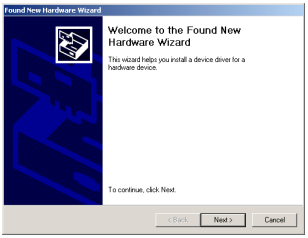
Once the computer has restarted, installation of the driver will be complete.
Next, you should check the protocol (page 31).

For Windows 95

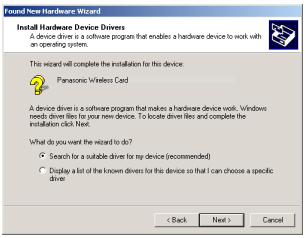
- If using Windows 95, refer to the installation procedure for Windows 98.

For Windows 2000

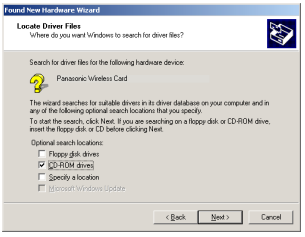
① When the wireless card is inserted, the Found New Hardware Wizard will start. Click “Next”.


Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install a device driver for a hardware device.
To continue, click Next.
< Back
Next >
Cancel

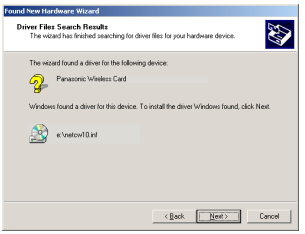
② Select “Search for a suitable driver for my device” and then click “Next”.


Found New Hardware Wizard
Install Hardware Device Drivers
A device driver is a software program that enables a hardware device to work with an operating system.
This wizard will complete the installation for this device:
Panasonic Wireless Card
A device driver is a software program that makes a hardware device work. Windows needs driver files for your new device. To locate driver files and complete the installation click Next.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< Back
Next >
Cancel

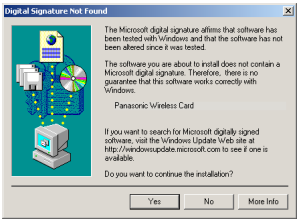
③ Insert the accessory CD-ROM into the CD-ROM drive of the computer, select “CD-ROM drive” and then click “Next”.


Found New Hardware Wizard
Locate Driver Files
Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
Panasonic Wireless Card
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations:
Floppy disk drives
CD-ROM drives
Specify a location
Microsoft Windows Update
< Back
Next >
Cancel

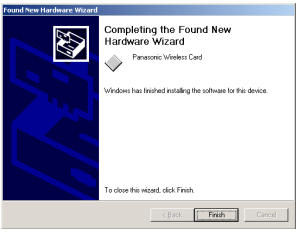
④ When “netcw10.inf” appears, click “Next”.


Found New Hardware Wizard
Driver Files Search Results
The wizard has finished searching for driver files for your hardware device.
The wizard found a driver for the following device:
Panasonic Wireless Card
Windows found a driver for this device. To install the driver Windows found, click Next.
e:\netcw10.inf
< Back
Next >
Cancel

⑤ Click “Yes”.
Driver installation will start.


Digital Signature Not Found
The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.
The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.
Panasonic Wireless Card
If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.
Do you want to continue the installation?
Yes
No
More Info

⑥ Click “Finish”.
Installation of the driver will be complete.
Next, you should check the protocol
(page 33).


Found New Hardware Wizard
Completing the Found New Hardware Wizard
Panasonic Wireless Card
Windows has finished installing the software for this device.
To close this wizard, click Finish.
< Back
Finish
Cancel

Checking the protocol

TCP/IP is used to transfer the images from the computer to the projector. Check that the computer has TCP/IP available.

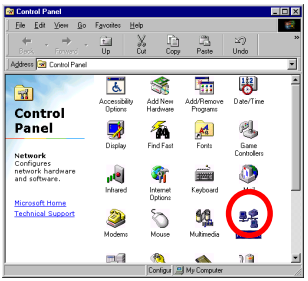
For Windows 98

Note:

- The Windows 98 Setup CD-ROM may be needed while the driver is being installed.

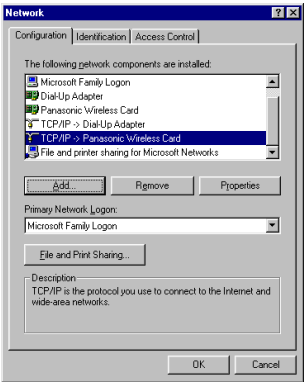
① Click “Start”, point to “Settings”, and click “Control Panel”.

② Double-click the “Network” icon.

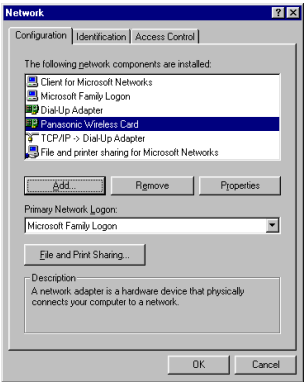


③ Check that “TCP/IP” is present in the list of installed network components.

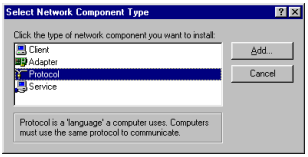
- If TCP/IP is installed, click “Cancel” and install the Configuration Utility. (See page 35.)
- If TCP/IP is not installed, continue on to step ④ below.



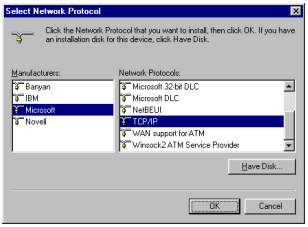
④ Click “Add”.



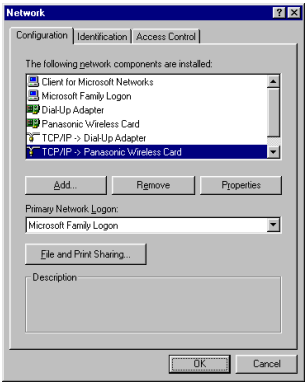
⑤ Select “Protocol” and then click “Add”.



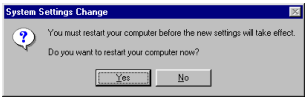
⑥ Select “Microsoft” in the Manufacturers column, select “TCP/IP” in the Network Protocols column, and then click “OK”.



⑦ Click “OK”.



⑧ Click “Yes”. The computer will then re-start.


System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

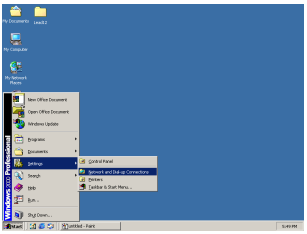
- When the computer has restarted, TCP/IP will be installed. Continue with the installation of the Configuration Utility (page 35).

For Windows 95

- If using Windows 95, refer to the protocol checking (adding) procedures for Windows 98.

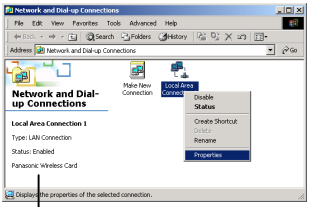
For Windows 2000

① Click “Start”, point to “Settings”, and click “Network and Dial-up Connections”.



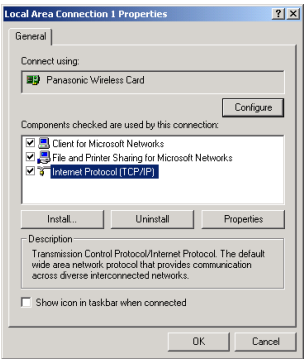
② Select “Local Area Connection”, click the right mouse button, and select “Properties”.

- If there are several “Local Area Connection” entries, select the one which gives “Panasonic Wireless Card” as the card name when you click on it with the right mouse button.



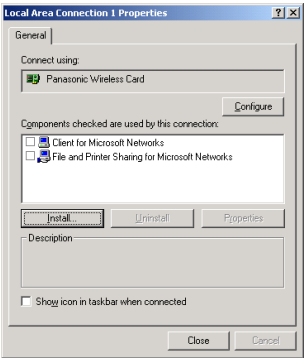
Card name

③ Check that “Internet Protocol (TCP/IP)” is present and selected in the “Components checked are used by this connection” list.

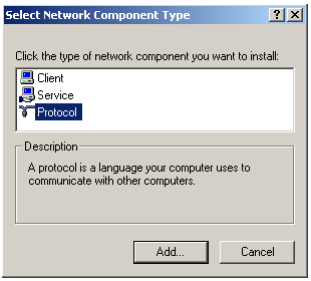


- If TCP/IP is installed, click “Cancel” and install the Configuration Utility. (See page 35.)
- If TCP/IP is installed but the check box is unselected, select the check box to enable TCP/IP.
- If TCP/IP is not installed, continue on to step ④ below.

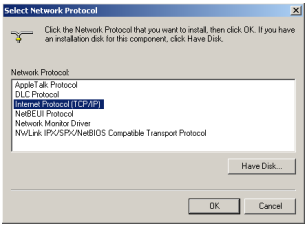
④ Click “Install”.



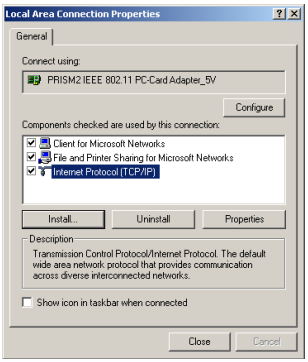
⑤ Select “Protocol” and then click “Add”.



⑥ Select “Internet Protocol (TCP/IP)” and then click “OK”.


Select Network Protocol
Click the Network Protocol that you want to install, then click OK. If you have an installation disk for this component, click Have Disk.
Network Protocol:
AppleTalk Protocol
DLC Protocol
Internet Protocol (TCP/IP)
NetBEUI Protocol
Network Monitor Driver
NwLink IPX/SPX/NetBIOS Compatible Transport Protocol
Have Disk...
OK
Cancel

⑦ Click “Close”.

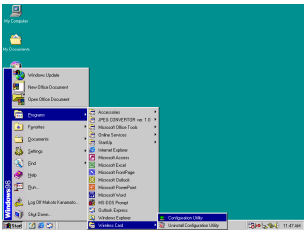


- TCP/IP will be added. Continue with the installation of the Configuration Utility (page 35).

Installing the Configuration Utility

You need to install the Wireless LAN Configuration Utility to the computer in order to use the optional ET-CDWL1 series wireless card. The Wireless LAN Configuration Utility is contained in the CD-ROM which is included with the projector as an accessory. Follow the steps below to install the Configuration Utility.

① Open the “English” folder in “CONFIGURATION UTILITY” on the CD-ROM.
② Double-click “Setup.exe”.
③ Follow the instructions which appear on the screen to complete the installation.
④ Start the Configuration Utility.



You can also start the Configuration Utility by clicking “Start”, pointing to “Programs”, pointing to “Wireless Card”, and then pointing to “Configuration Utility”. When the Configuration Utility starts, the menu screen appears and an icon appears on the taskbar at the bottom-right corner of the screen.

- Be sure to start the program only once.

The various wireless card settings are made using the Wireless Manager which is also supplied on the accessory CD-ROM. There is no need to change any settings using the Configuration Utility.

Displaying the Configuration Utility

- If you use the mouse to left-click on the Configuration Utility icon in the taskbar, a menu appears.
- Refer to the online help for the Configuration Utility for details on using the Utility.

Using the Wireless Manager

The Wireless Manager is a program that runs on the computer and is used to send images to the projector. The Wireless Manager is included on the CD-ROM that is supplied with the projector as an accessory. Read the “Read this first” that is included with the projector for instructions on installing the Wireless Manager.

Wireless Manager capabilities

- The Wireless Manager is used to make network settings. It lets you register multiple network settings so that you can easily select the settings that apply to the network you are currently using. (See page 37)
- It also lets you capture images from the computer screen and transmit them to the projector so that they can be projected. (See page 42)
- You can also use the Wireless Manager to view a list of existing image files in folders, and to select images from these folders for transmitting to the projector for display. Furthermore, the images can be played back automatically. (See page 47)
- The Wireless Manager is compatible with BMP, JPEG and PNG image formats. (However, it cannot handle files that are larger than 4 MB in size.)

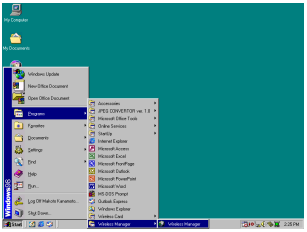
Starting and closing the Wireless Manager

Before starting Wireless Manager

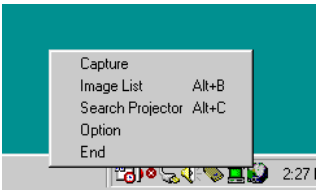
Check the computer settings by following the procedure below, and make any changes that are necessary.

- Click with the right mouse button on an empty part of the desktop and select "Properties". Then open the "Settings" tab in the "Display Properties" window and change the "Colors" setting to "High Color (16 bit)" or greater. (For Windows 95, open the "Display Details" tab.)
- Follow the same procedure as above to open the "Settings" tab in the "Display Properties" window. Then click the "Advanced" button, and change the "Font Size" setting to "Small Fonts". (For Windows 95, open the "Display Details" tab.)

You can start the Wireless Manager by clicking “Start”, pointing to “Programs”, pointing to “Wireless Manager” and then click the “Wireless Manager”. When the Wireless Manager starts, an icon appears on the taskbar at the bottom-right corner of the screen.



- If you right-click on the icon on the taskbar, a menu appears. Select an item in the menu and click the left mouse button to display the respective window.
- To close the Wireless Manager, choose “End”.

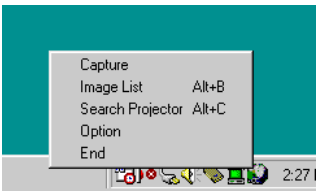


Computer network settings

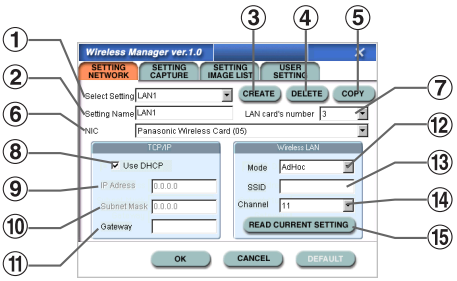
The computer’s network settings must be correct in order to be able to send images to the projector. Multiple network setting values can be stored. When TCP/IP settings are made or changed, it is sometimes necessary to restart the computer before they can take effect.

Wireless Manager cannot be used to change the settings if you are using a wireless card other than the optional ET-CDWL1 series card. You will need to use the software that is supplied with the wireless card in order to change the settings.

Right-click on the icon in the taskbar, select “Option” to display the Option window, and then select “SETTING NETWORK”.



Make the following settings.



① Select Setting
If creating several network settings, use the ▼ button to select a setting.

② Setting Name
Lets you type a name for the network setting.
(Example) LAN1

③ Create
Creates a new network setting.

④ Delete
Deletes the currently-displayed network setting.

⑤ Copy
Creates a new network setting and copies the contents of the currently-displayed network setting to the new setting.

⑥ NIC (Network Interface Card)
Selects the wireless card to be used.

⑦ LAN card's number
Type in the last digit of the product number for the wireless card that you are using (see page 5).

TCP/IP

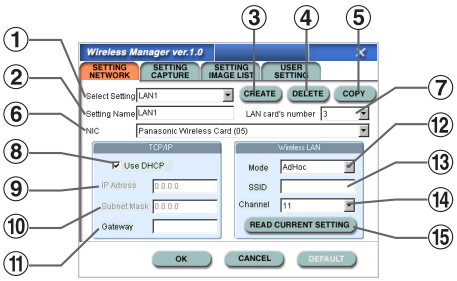
⑧ Use DHCP
Select if you would like to assign an IP address so that the computer can use a DHCP server.

⑨ IP address
Type in the computer's IP address. The computer's IP address cannot be the same as the projector's IP address or another computer's IP address.
Refer to page 14 of "Wireless function preparation" while making this setting.

⑩ Subnet Mask
Type in the subnet mask.
Refer to page 14 of "Wireless function preparation" while making this setting.

⑪ Gateway
Type in the gateway address.
This setting is not required for communication with the projector.
This setting is not compatible with the metric settings for Windows 2000. If metric settings are required, make the setting using the "Advanced TCP/IP settings" window in Windows 2000.

Wireless LAN



⑫ Mode

Set to either “Ad Hoc” mode or “Infrastructure” mode.
Refer to page 14 of “Wireless function preparation” while making this setting.

Note:

- If setting to “Ad Hoc” mode, do not set to “802.11Ad Hoc”.

⑬ SSID

Change the name so that it is the same as the SSID that has been set for the access point to be used for transmissions in Infrastructure mode.

⑭ Channel

Set the channel to be used during Ad Hoc mode. The projector must be set to the same channel.

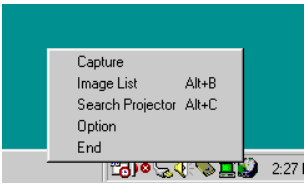
⑮ READ CURRENT SETTING

Loads the setting values which are currently set for the wireless card.

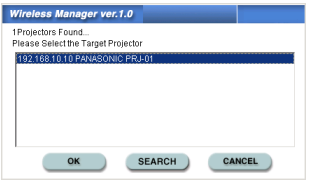
When all settings have been completed, click “OK”. It may then be necessary to restart Windows.
After making the settings, do the “Checking communication with the projector” described on page 40.

Checking communication with the projector

Right-click on the icon in the taskbar, and select “Search Projector”.



- If communication with the projector is successful, the host name and IP address for the projector will appear.
- Select the projector for transmitting the images to, and then click “OK”.
- If you would like to repeat the search for a projector, click “SEARCH”.

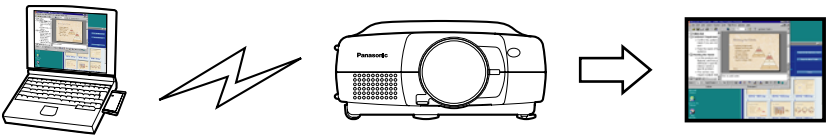


Note:

- Projector searching cannot be carried out for approximately 30 seconds after the projector power is turned on, even if “Search Projector” is selected.
- If the IP addresses have not been set for projectors and computers within the same network group, searching may not be carried out correctly.
- If the message “No projector detected.” appears as shown at right, the projector and/or computer settings may be incorrect. Check the settings and then repeat the search.

Basic image transmission examples

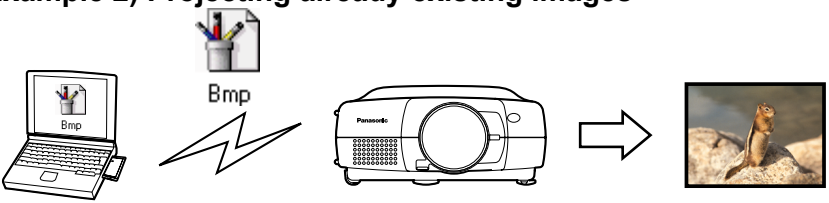
(Example 1) Capturing computer screen images and projecting them



Projector

The current image on the computer screen can be captured and transmitted to the projector for projecting. (See page 42.)

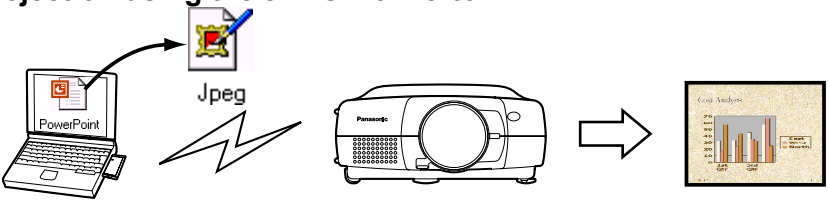
(Example 2) Projecting already-existing images



Projector

Images which already exist and are in BMP, JPEG or PNG format can be selected from an image list and transmitted to the projector for projecting. Furthermore, the images can be played back automatically. (See page 47.)

(Example 3) Converting Microsoft PowerPoint data for projection using the JPEG Convertor



Projector

Microsoft PowerPoint files can be converted into JPEG files using the JPEG Convertor as described on page 52. The converted JPEG files can be selected from an image list and sent to the projector for projection. (See page 47.)

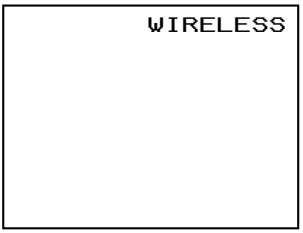
Note:

- The time that elapses between when the images are sent from the computer and when they are projected by the projector will depend on the volume of image data being sent and the wireless transmission conditions.

Before transmitting images

Before using the Wireless Manager to transmit images to the projector, you must select the correct input source for the projector.

Press the input select (INPUT, RGB) buttons on the projector or remote control unit to set the input source to "WIRELESS".

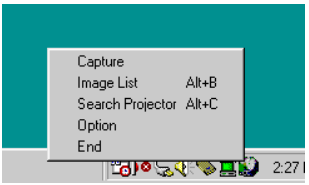


Capturing and transmitting computer screen images

The image which is currently displayed on the computer screen can be captured and transmitted to the projector, and it can also be saved at the computer.

Functions of the Capture window

Right-click the icon on the taskbar, and select "Capture". The Capture window appears.

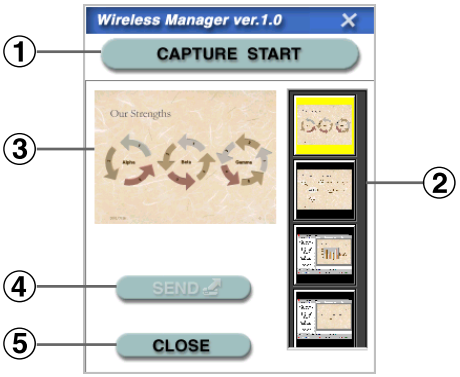


① "CAPTURE START" button
Captures screen images.
There are three types of capturing methods that can be used. See "Selecting the capturing method" on page 43 for details.

② Image capture history column
Shows the image capture history (up to 4 images) .

③ Preview column
Shows an enlarged view of the image selected in the image capture history column.

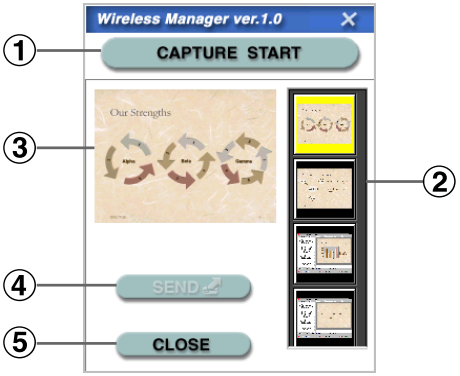
④ "SEND" button
Sends images selected in the image capture history list to the projector.



⑤ “CLOSE” button
Closes the Capture window.

Note:

- Items ② to ⑤ above appear when the “Preview & History” check box in the “SETTING CAPTURE” windows is selected. (See page 46.)

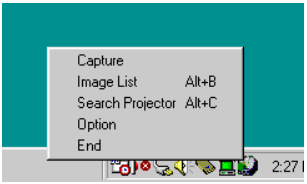


Selecting the capturing method

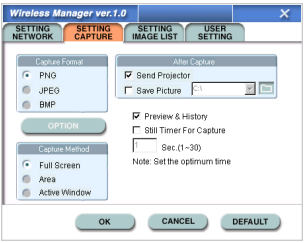
Three types of capturing method are available.
(1) “Full Screen”: Captures the whole of the computer screen.
(2) “Area”: Captures the area selected using the mouse.
(3) “Active Window”: Captures only the active window.

The capturing method can be changed using the “Option” command in the pop-up menu.

① Right-click the icon on the taskbar, and select “Option”. The “Option” window appears.



② Select “SETTING CAPTURE” in the “Option” window.
③ Select the capturing method from the “Capture Form” box.
④ Click “OK”.



Note:

- See “Setting the capturing conditions” on page 46 for details on the other setting options in the “SETTING CAPTURE” window.

(1) Full Screen capture

This captures the whole of the computer screen.

① Select “SETTING CAPTURE” in the “Option” window and then select “Full Screen” from the “Capture Form”.
See “Selecting the capturing method” above for details on the “Capture Form” settings.

② Right-click the icon on the taskbar, and select “Capture”.
The Capture window appears.

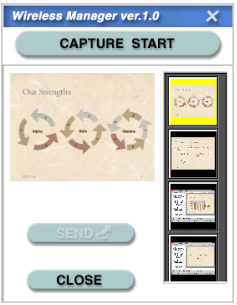
③ When the screen image that you would like to capture is being displayed, click “CAPTURE START”.

Note:

- Depending on the computer's processing speed, the image may be captured while it is still being redrawn on the computer screen.If this happens, click “CAPTURE START” in “⑤ Still Timer For Capture” on page 46, and then set the waiting time before capturing starts.
- If the setting for “③ After Capture” on page 46 is “Send Projector”, the captured image will be sent to the projector automatically without needing to click the SEND button. Furthermore, you can save the image by selecting “Save Picture”.

(2) Area capture

This captures a rectangular area of the computer screen which is selected using the mouse.

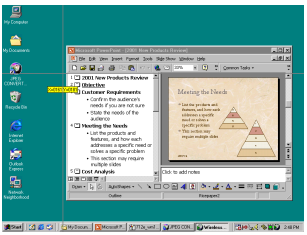


① Select “SETTING CAPTURE” in the “Option” window and then select “Area” from the “Capture Form” box.
See “Selecting the capturing method” on page 43 for details on the “Capture Form” settings.

② Right-click the icon on the taskbar, and select “Capture”.
The Capture window appears.

③ Click “CAPTURE START”.

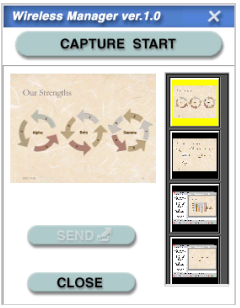
④ Move the mouse pointer to a corner of the area to be selected for capturing, and then hold down the left mouse button and drag the mouse pointer to select the whole of the area to be captured. Once the area is selected release the mouse button.



- If the setting for “③ After Capture” on page 46 is “Send Projector”, the captured image will be sent to the projector automatically without needing to click the SEND button. Furthermore, you can save the image by selecting “Save Picture”.

(3) Active Window capture

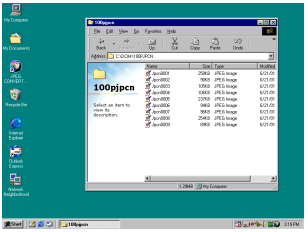
This captures only the window which is selected on the computer screen.



① Select “SETTING CAPTURE” in the “Option” window and then select “Active Window” from the “Capture Form”.
See “Selecting the capturing method” on page 43 for details on the “Capture Form” settings.

② Right-click the icon on the taskbar, and select “Capture”.
The Capture window appears.

③ Click “CAPTURE START”.



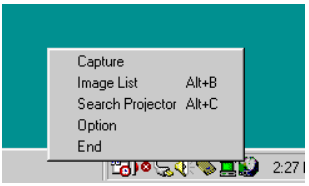
④ Select the window to be captured.

Note:

- Depending on the computer's processing speed, the image may be captured while it is still being redrawn on the computer screen. If this happens, click “CAPTURE START” in “⑤ Still Timer For Capture” on page 46, and then set the waiting time before capturing starts.
- If the setting for “③ After Capture” on page 46 is “Send Projector”, the captured image will be sent to the projector automatically without needing to click the SEND button. Furthermore, you can save the image by selecting “Save Picture”.

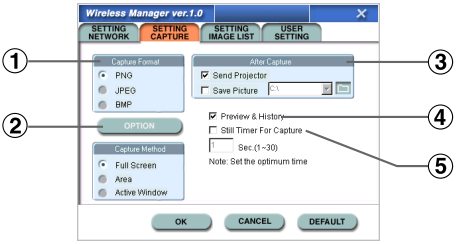
Setting the capturing conditions

The Setting Capture window contains various options which affect how images are captured. Right-click the icon on the taskbar, and select “Option”. Then select “SETTING CAPTURE” from the “Option” window.



① Capture Format

Lets you select the format for saving the captured images in. You can select either PNG, BMP or JPEG.



② Option

When “Capture Format” is set to “JPEG”, this lets you specify the JPEG compression ratio. If the slide bar is moved towards “High”, the image quality becomes higher, but the resulting image file size is larger. If the slide bar is moved towards “Low”, the image quality becomes poorer but the resulting image file size is smaller.

③ After Capture

If you would like images to be sent to the projector as soon as they are captured, select “Send Projector”.

If you would like to save the captured images to a location such as the computer’s hard disk, select “Save Picture”. Furthermore, click the button and specify the location to save the image. You can select the same location that was used to save the previous image by clicking the ▼ button.

④ Preview & History

If this is selected, you can view the captured image preview and the history for the captured images in the Capture window.

⑤ Still Timer For Capture

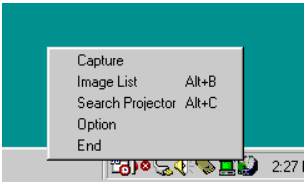
Depending on the computer's processing speed, the image may be captured while it is still being redrawn on the computer screen. When doing a full screen capture, click “CAPTURE START” in the “Capture” window. When capturing the active window, select the window to be captured. After this, select the “Still Timer for Capture” box if you would like to set an interval of time before capturing actually starts. You can then set the time to between 1 and 30 seconds in the box below.

Transmitting existing images

The “Image List” window lets you view existing images and then select images to be transmitted to the projector.

Functions in the “Image List” window

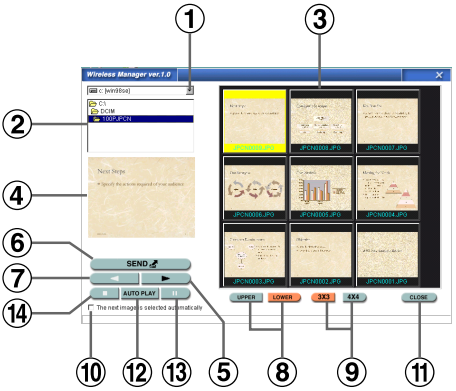
Right-click the icon on the taskbar, and select “Image List”. The “Image List” window appears.



① “▼” button
Lets you specify the drive that contains the image files.

② Folder Selection box
Lets you specify the folder that contains the image files.

③ Image List box
Displays a list of the image files in the folder that was specified in the folder selection box. If you click on an image in the image list box, the selected image appears in the Preview window.
Only files that are in BMP, JPEG or PNG format can be displayed in this way.



④ Preview window
Displays the image that is selected in the Image List box.

⑤ “▶” button
When you click the ▶ button, the next image is selected and appears in the preview window.

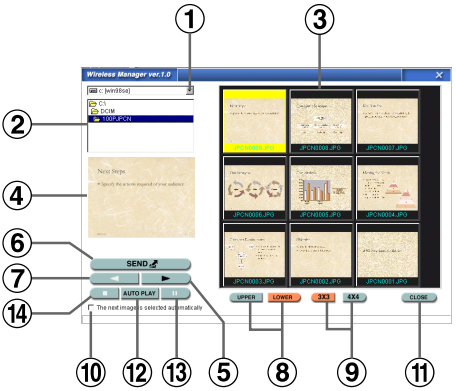
⑥ “SEND” button
When this button is clicked, the image that is currently being displayed in the Preview window is transmitted to the projector.

⑦ “◀” button
When you click the ◀ button, the previous image is selected and appears in the preview window.

⑧ Sort buttons
Lets you change the sorting method for the image data that is being displayed.

⑨ Thumbnail buttons

Lets you change the number of images that can be displayed in the Image List box.



⑩ The next image is selected automatically

If this is selected, the selected image is sent to the projector when the SEND button is clicked, and then the next image in the image list is selected and appears in the preview window. Furthermore, the image in the preview window is stored in the projector's memory. The Wireless Manager functions cannot be used while an image is being stored by the projector in this way.

⑪ "CLOSE" button

Closes the "Image List" window.

Auto Play

⑫ "AUTO PLAY" button

If you click the "AUTO Play" button, the images displayed in the Image List box are changed and transmitted to the projector automatically in the order they appear after a certain interval of time. This interval can be set using the "② Interval" setting on page 49.

⑬ Pause button

If you click the pause button during Auto Play, playback is momentarily paused. If you click the pause button again, playback resumes.

⑭ Stop button

If you click the stop button during Auto Play, Auto Play stops.

Basic operations

① Use the ▼ button and the Folder Selection box to select the folder containing the existing image files.

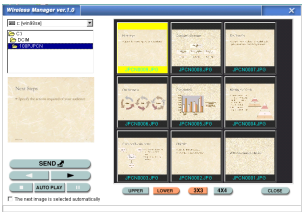
② Select the images to be projected in the Image List box and then click "SEND".

The selected images will be sent to the projector and projected.

Using Auto Play to play images in a specified order

① Use the sorting function of JPEG Convertor (page 57) to sort the images in the order that you would like Auto Play to play them back, and then convert the images to JPEG files.
JPEG Convertor can handle images that are in JPEG, BMP and TIFF format. It is not compatible with images that are in PNG format.

② Use the ▼ button and the Folder Selection box to select the folder containing the JPEG files that were created by JPEG Convertor.



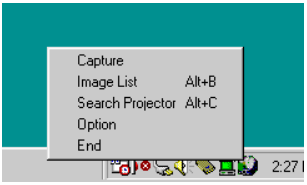
③ Click “AUTO PLAY”.
Auto Play will then start.

Note:

- It may not be possible to send images with filenames that contain double-byte characters.
- Do not transmit images from other computers to the projector while the automatic playback function is in use.

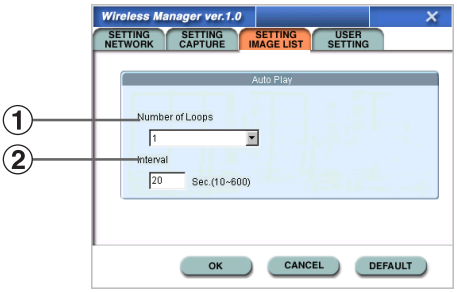
Image List status settings

You can change the details of some settings that affect how the image list is displayed. Right-click the icon on the taskbar, and select “Option”. The “Option” window appears. Then select “Setting Image List”.



① Number of Loops
This sets the number of times that playback is repeated when “AUTO PLAY” is selected.

② Interval
This sets the interval of time between the display of one image and then next during automatic playback.

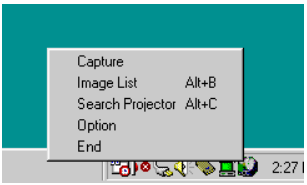


Other useful Wireless Manager functions

Shortcut Key Assignment

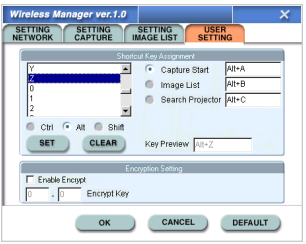
The Wireless Manager lets you create shortcut keys for quick access to the various windows.

① Right-click the icon on the taskbar, and select “Option”. Then select “OTHER SETTING” from the “Option” window.



② Select the function to be assigned to a shortcut.

Capture Start: Captures images in accordance with the current capture settings.
Image List: Displays the “Image List” window.
Projector Search: Displays the Projector Search window.



③ Select the shortcut key to be assigned to the selected function.

④ Select the key (Ctrl, Alt, Shift) to be pressed at the same time.

⑤ Click “Set”. (This completes the setting.)

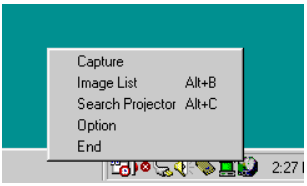
Note:

- When using shortcut keys, the selected keys should be pressed simultaneously.
- To clear a shortcut key setting, select the function to be cleared and then click “Clear”.
- You can check the shortcut key setting in the “Key Preview” box.
- If you select a shortcut key combination that is already being used by Windows or some other applications that is running at the same time as Wireless Manager, the shortcut key may not function correctly.

Encryption settings

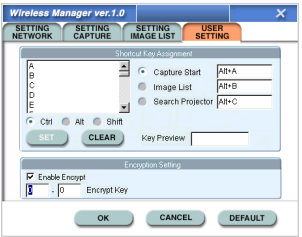
The images that are sent to the projector can be encrypted. Use the same encryption key that has been set for the projector. (See page 25.)
When images are encrypted, it takes longer for them to be sent.

① Right-click the icon on the taskbar, and select “Option”. Then select “Other Setting” from the “Option” window.



② Select “Enable Encrypt”.

③ Set the encryption key to the same key that has been set for the projector. (See page 26.)



④ Click “OK”. (This completes the setting.)

Note:

- To clear the setting, unselect the “Enable Encrypt” check box.
- The computer communciations will not be encrypted when “Enable Encrypt” is selected. It is recommended that you assign a password for shared folders on the computer in order to protect the data.

Using JPEG Convertor

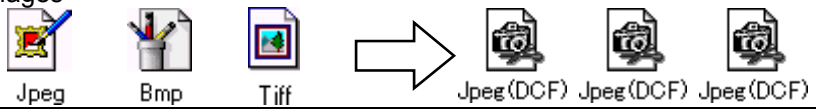
The CD-ROM which is included with the projector contains the JPEG Convertor software (for Windows only). To use this software, read the “Read this first” booklet which is also included, and then install the JPEG Convertor.
This projector cannot be used to write data to SD memory cards.

What JPEG Convertor can do

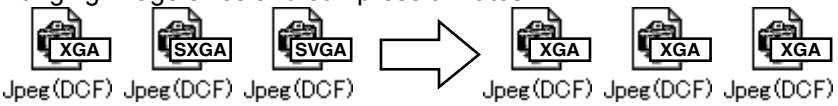
Conversion of PowerPoint files (.ppt extension) to DCF-compliant JPEG images

PowerPoint 97/2000 must be installed on the computer which is being used to do the conversion.

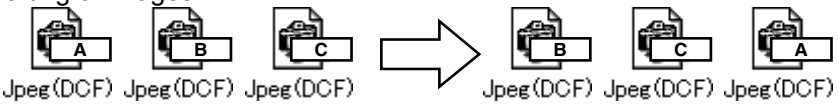
Conversion of JPEG, BMP and TIFF images to DCF-compliant JPEG images



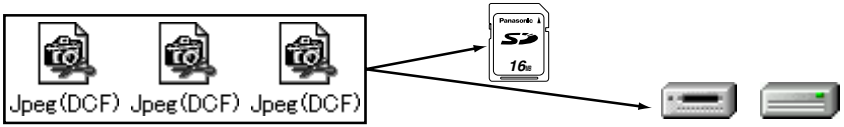
Changing image sizes and compression rates



Sorting of images



Saving images to locations such as a SD memory card, hard disk or MO drive



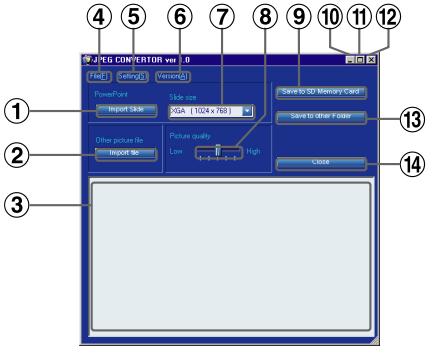
This projector cannot be used to write data to SD memory cards.

Starting JPEG Convertor

To start JPEG Convertor, click Start, point to Programs, point to JPEG Convertor Ver 1.0 and then click JPEG Convertor Ver 1.0.

Main screen functions

When JPEG Convertor is started, the main screen shown in the illustration below appears.



① Import Slide button
Imports presentation files created using Microsoft PowerPoint into JPEG Convertor.

② Import file button
Imports image files (JPEG, BMP or TIFF format) created using other applications into JPEG Convertor.

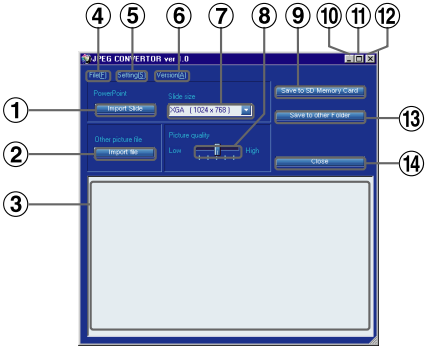
③ Thumbnail screen
Displays small previews of the images which have been imported into JPEG Convertor. If you right-click on any of the thumbnail images in this screen, the images can be displayed in actual size, sorted or deleted.
This projector cannot be used to write data to SD memory cards.

④ File menu
Commands such as Import Slide, Import file, Save to SD Memory Card, Save to other folder and Close can be selected from this menu.

⑤ Setting menu
Lets you select the various settings to be applied (such as DCF format conversion, thumbnail creation and size conversion) when images are imported.

⑥ Version
Lets you check the software version information for JPEG Convertor.

⑦ Slide size list box
Lets you select the image size for presentation files created using Microsoft PowerPoint when they are imported into JPEG Convertor.



⑧ Picture quality slider

Lets you adjust the quality (compression rate) of the JPEG images when they are being saved using the Save to SD Memory Card and Save to other folder commands.

This projector cannot be used to write data to SD memory cards.

⑨ Save to SD Memory Card button

This projector cannot be used to write data to SD memory cards.

⑩ Minimize ( ) button

Minimizes the JPEG Convertor window and makes it appear as a button on the taskbar.

⑪ Maximize ( ) button

Enlarges the JPEG Convertor window so that it fills the whole of the screen. When the window is maximized, click the Restore button ( ) to return the window to its previous size.

⑫ button

Closes JPEG Convertor. It works in the same way as the Close button.

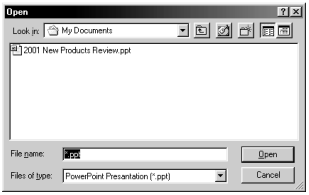
⑬ Save to other folder button

Saves the JPEG images to some other location such as a hard disk or MO drive.

⑭ Close button

Works in the same way as the button.

Importing presentation files created using Microsoft PowerPoint



① Check the size in the Slide size drop-down list box.

The projector can project JPEG images which are of XGA size, so Slide size should be set to “XGA (1024 x 768)”.

Note:

- If Slide size is set to SXGA size, you can create JPEG files with the maximum quality, but they will be converted to XGA size when they are projected by the projector. Furthermore, the file size will also become bigger. In addition, Slide size can be set to SVGA size to reduce the file size, but when such images are projected by the projector, they will be increased to XGA size, resulting in losses in picture

quality.

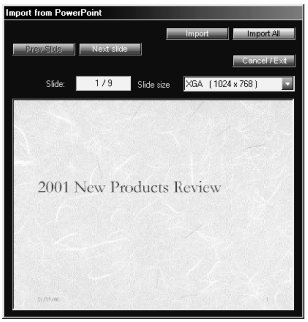
② Click Import Slide, and then select the presentation file to import.

An Open window such as the one shown in the illustration will appear. Use the drop-down list box or double-click the folder icons to navigate to the location of the presentation file to be converted, and then select the file to be converted and click Open.

Note:

- Only presentation files which are in PPT format (which have a .ppt extension) can be imported. For files in other formats (such as those with .pps extensions), open the file in PowerPoint and re-save it in PPT format.

③ An import window such as the one in the illustration will appear. If you wish to import all slides in the presentation, click Import All.

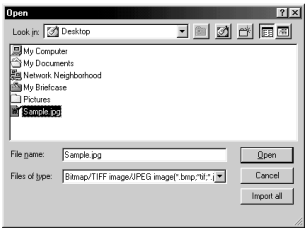


If you wish to import selected slides, click Prev Slide or Next Slide to display a slide you wish to import, and then click Import. When the import is finished, click Cancel/Exit.

Note:

- The imported slides will be converted to an aspect ratio of 4:3. It is not recommended that you import slides which do not have a 4:3 aspect ratio, as the image may not reproduce correctly.
- If you wish to cancel the import after clicking Import All, click Cancel/Exit.
- An error may occur when the files are converted on a computer which has PowerPoint 97 in-stalled. If this happens, the error may disappear if the files are converted on a computer which has PowerPoint 2000 installed.

Importing JPEG, BMP and TIFF files created using other applications



Click Import file, and then select the folder and then the image you wish to import.

An Open window such as the one shown in the illustration will appear. Use the drop-down list box or double-click the folder icons to navigate to the location of the image file(s) to be converted, and then select the file(s) to be converted and click Open. If you click Import All, all image files in the folder which is currently open will be imported.

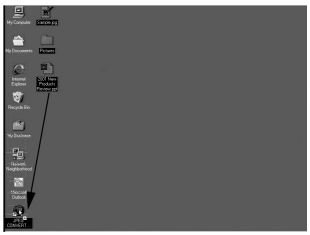
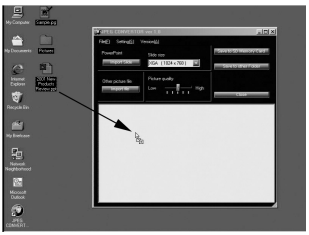
Images which cannot be imported

It may not be possible to import some files with the following properties, even if they are in JPEG, BMP or TIFF format.

- Files which are more than 10,000 pixels in width or height
- BMP files which have been compressed using RLE compression
- TIFF files which have been compressed using LZW compression
- JPEG or TIFF images in CMYK (Cyan, Magenta, Yellow, Black) format

Importing files using drag-and-drop

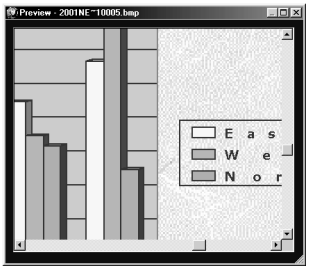
JPEG Convertor is compatible with drag-and-drop operations. Select the folder and then the file to be converted, and then drag it onto the JPEG Convertor shortcut icon on the Desktop, or drag it to the open JPEG Convertor window. If JPEG Convertor is not already running, it will then start and the selected file will be imported.

	
Dragging and dropping onto the shortcut icon	**Dragging and dropping into the application window**

Checking, sorting and deleting images

JPEG Convertor lets you enlarge the imported images which are displayed in the thumbnail screen for checking, and also lets you sort the images into a particular order for displaying during a presentation. You can also delete unneeded images.

Checking images



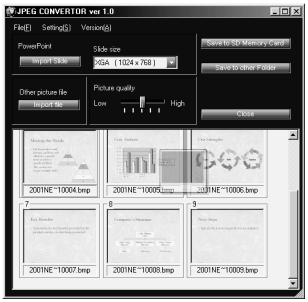
Double click on the image you wish to check.

An enlarged view of the image will appear, so that you can check that the image has imported correctly.

Note:

- You can also enlarge thumbnail images by right-clicking on them and selecting Display picture from the pop-up menu.

Sorting images



Drag the thumbnail image and drop it in the place where you wish the image to appear.

A green dividing line appears between the images. If you release the mouse button when the thumbnail image is in the desired location, the image will move to that location.

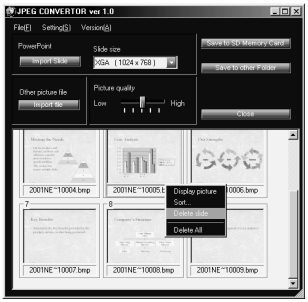
Note:

- You can also move thumbnail images by right-clicking on them and selecting Sort from the pop-up menu, and then using the Arrange Images dialog box which appears.

Deleting images

Select the image you wish to delete.

You can select multiple images by pressing the Ctrl key while clicking on each image to be selected. You can also press the Shift key to select all images within a range between two images.



Right-click in the thumbnail image screen, and then select Delete slide from the pop-up menu to delete the selected images from the thumbnail screen.

If you select Delete All in the pop-up menu, all imported images will be deleted.

Click Yes in the confirmation dialog box.

The selected image files will be deleted from the thumbnail screen.

Note:

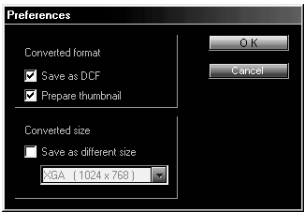
- The original image files will not be deleted. Only the imported files will be deleted.

Conversion settings for saving images

The conversion settings to be used when saving images onto the SD memory card or into other folders can be set using the Preferences dialog box which appears when Preferences is selected from the Setting menu, or using the Picture quality slider in the main application window.
This projector cannot be used to write data to SD memory cards.

Save as DCF check box

If this check box is selected, the file name and folder name will be converted to DCF format (refer to page 60) when the file is saved.
If this check box is not selected, the file will be saved with the file name which appears below the image in the thumbnail screen.



Prepare thumbnail check box

If this check box is selected, a thumbnail image will be created and embedded in the JPEG file when the file is saved.

Save as different size check box

If this check box is selected, the file will be converted to the size specified in the Converted size list box when the file is saved.

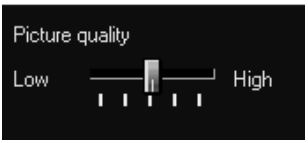
Note:

- When converting from PowerPoint presentation files, the file will be saved at the same size which was set at the time of importing, regardless of this check box setting.

Converted size list box

The projector can project JPEG images which are of XGA size, so Converted size should be set to “XGA (1024 x 768)”. If the Save as different size check box is not selected, the Converted size setting will be ignored.

Picture quality slider



This adjusts the image quality (compression rate) for JPEG images when they are being saved using the Save to SD Memory Card and Save to other folder commands. If a higher image quality is selected, the resulting file size will be greater, and if a lower quality is selected, the resulting file size will be smaller (about 1/5 the size compared to when high quality is selected).

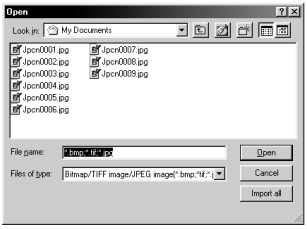
Note:

- JPEG is an effective compression method for natural images such as photographs. Presentations created using PowerPoint and illustrations created using graphics programs may show some deterioration in image quality even if a high-quality setting is used.

Saving to other folders

You can save images to a location such as the computer’s hard disk or a MO drive by clicking on Save to other folder.

Click Save to other folder and select the destination folder for saving.



A Select folder window such as the one in the illustration will appear. Use the drop-down list box or double-click the folder icons to open the folder you wish to save the file in, and then click Save.

Note:

- You can create new folders by clicking Create new folder ( ).

DCF standard

The DCF specification imposes the following conditions.

Limits on directory names

Directories must be created within the main DCIM directory.

- Data which is contained within any directory other than the DCIM directory cannot be recognised.

Directory names must consist of three numerals (directory number) followed by five alphanumeric characters. (Example: 100abcde)

- The three numerals must make up a number between 100 and 999, and the alphanumeric characters can be taken from the following set of 37 characters: 0123456789abcdefghijklmnopqrstuvwxyz_ (No distinction is made between upper-case and lower-case alphabetic characters. Double-byte characters cannot be used.)

Multiple directories using the same three-digit combination (directory number) cannot be created.

Directory sub-hierarchies are not supported.

File names

File names must consist of four alphanumeric characters followed by four numerals (file number), followed by ".jpg". (Example: abcd0001.jpg)

- The four numerals must make up a number between 0001 and 9999, and the alphanumeric characters can be taken from the following set of 37 characters: 0123456789abcdefghijklmnopqrstuvwxyz_ (No distinction is made between upper-case and lower-case alphabetic characters. Double-byte characters cannot be used.)

Multiple file names using the same four-digit combination (file number) cannot be created.

File format

Only JPEG image files which comply with the Exif 2.1 standard are recognised.

Using the SERIAL connector

The following command parameters have been added to the serial connector control commands which are listed in the separate PT-L712E Operating Instructions.

Command	Control Contents	Remarks
IIS	Input signal selection	Parameter VID = VIDEO SVD = S-VIDEO RG1 = RGB1(YPBPR1) RG2 = RGB1(YPBPR2) **NWP = WIRELESS**

Message List

NO CARD	No wireless card has been inserted.
ERR 03	Incompatible wireless card
ERR 90	An internal error has occurred. Turn off the power according to the procedure given in “Turning off the power” in the separate PT-L712E Operating Instructions, and then turn the power back on.

Before asking for service

Check the following before asking for service.

Symptom	Check the following
The computer does not recognise the wireless card.	• Is the wireless card inserted all the way into the PC card slot in the computer? • Has the driver been installed correctly? • Are insufficient computer system resources available? (Refer to the Windows online help.)
Transmission speed is very slow.	• If encryption has been set, extra transmission time is required in order to convert the image data. • If another device is carrying out wireless communication using the same channel, the transmission speed may become slower. Change the selection to a different channel.

Symptom	Check the following
The projector cannot be found when using the Search Projector function of the Wireless Manager.	• Check if the computer and the projector are too far apart, or if something is between them and obstructing signal transmission and reception. Refer to page 4 also. • Check if network settings such as the IP address and subnet mask are correct. • Has TCP/IP been installed to the computer? (Page 31) • Has the WEP function been enabled? If using a wireless card other than the optional card or if using an access point and the WEP function has been enabled, the computer cannot communicate with the projector. Disable the WEP function. • In Ad Hoc mode, the channel settings for the projector and computer must be the same. • In Infrastructure mode, the projector and computer must be set to the same SSID as the access point being used. In addition, check if any functions that limit the way that the computer can communicate with the access point are being used.
Images appear in the “Image List” screen of the Wireless Manager, but some images do not appear and errors also appear.	• If encryption has been set, check that the encryption keys are the same for both the projector and the computer. • Images in formats such as JPEG have many different sub-formats, and some of these sub-formats may not display properly.
The image projected is different from the image that was transmitted.	• If a file with the same filename and same file size but in a different folder was previously transmitted to the projector, the previous file will be projected instead of the new file. Change the name of the other file and then re-transmit the new file.
Images do not appear even though the encryption key has been set correctly.	• Turn off the power supply for the projector while referring to “Turning off the power” in the PT-L712E Operating Instructions, and then turn the power back on.

Symptom	Check the following
The Wireless Manager screen colors are incorrect, and the characters are hard to read.	• Click with the right mouse button on an empty part of the desktop and select “Properties”. Then open the “Settings” tab in the “Display Properties” window and change the “Colors” setting to “High Color (16 bit)” or greater. (For Windows 95, open the “Display Details” tab.)
The Wireless Manager screen display is misaligned and buttons do not appear correctly.	• Follow the same procedure as above to open the “Settings” tab in the “Display Properties” window. Then click the “Advanced” button, and change the “Font Size” setting to “Small Fonts”. (For Windows 95, open the “Display Details” tab.)

Specifications

Identical specifications appear in the separate PT-L712E Operating Instructions, but the following should be referred to for details on PT-L712NTE specifications.

Power supply:	100 V - 240 V ~, 50 Hz/60 Hz
Power consumption:	240 W Approx. 5 W - 10 W when in standby mode (when fan is stopped)
Amps:	2.8 A - 1.0 A
LCD panel:	
Panel size (diagonal):	0.9 type (22.86 mm)
Aspect ratio:	4:3 (16:9 compatible)
Micro lens array:	Available
Display method:	3 transparent LCD panels (RGB)
Drive method:	Active matrix method
Pixels:	786 432 (1024 x 768) x 3 panels
Lens:	Manual zoom (1 - 1.3) / focus lens F 1.8 - 2.1, f 28.7 mm - 36.0 mm
Lamp:	UHM lamp (165 W)
Luminosity:	1600 lm/ANSI
Scanning frequency:	(for RGB signals) Internal data (point scanning) method

Horizontal scanning frequency	24 kHz - 97 kHz
Vertical scanning frequency	50 Hz - 120 Hz
Dot clock frequency	135 MHz or less

YPBPR signals:	NTSC (480i), 480p, PAL (625i), 720p, HDTV (1080i/1035i)
Colour system:	6 (NTSC / NTSC 4.43 / PAL / PAL-M / PAL-N / SECAM)
Projection size:	762 mm - 7620 mm (30" - 300")
Throw distance:	1.1 m - 11.7 m (3'8" - 38'4")
Optical axis shift:	9:1 (fixed)
Screen aspect ratio:	4:3
Installation:	Front/Rear/Ceiling/Desk (Menu selection method)
Speakers:	2.8 cm round x 2
Max. useable volume output:	2 W (1 W + 1 W) (stereo)
Connection terminals:	
RGB/YPBPR IN:	Dual-line D-SUB HD 15-pin (female)
During YPBPR input:	
Y:	1.0 V [p-p] (including sync signal), 75 Ω
PB,PR:	0.7 V [p-p], 75 Ω

Connection terminals	
During RGB input:	
R.G.B.:	0.7 V [p-p], 75 Ω
G.SYNC:	1.0 V [p-p], 75 Ω
HD/SYNC:	TTL high impedance, automatic plus/minus polarity compatible
VD:	TTL high impedance, automatic plus/minus polarity compatible
AUDIO IN (for RGB):	Double-line 0.5 V [rms] M3 jack (Stereo MINI)
VIDEO IN:	Single-line, RCA pin jack 1.0 V [p-p], 75 Ω
S-VIDEO IN:	Single-line, Mini DIN 4-pin Y 1.0 V [p-p], C 0.286 V [p-p], 75 Ω
AUDIO IN (for S-VIDEO/VIDEO):	0.5 V [rms] RCA pin jack x 2 (L-R)
AUDIO OUT:	Single-line 0.5 V [rms] M3 jack (Stereo MINI) (Monitor output/stereo compatible) 0 V [rms] - 2.0 V [rms] (variable)
Serial connector:	D-sub 9-pin (female) RS-232C compatible
Wireless card slot:	For wireless card only
Cabinet:	Moulded plastic
Dimensions:	
Width:	233 mm (9 5/32")
Height:	111 mm (4 3/8")
Length:	330 mm (13")(with lens cover fitted)
Weight:	4.0 kg (8.8 lbs.)
Operating environment:	
Temperature:	0 ºC - 40 ºC (32 ºF - 104 ºF)
Humidity:	20 % - 80 % (no condensation)
Certifications:	EN60950, EN55022, EN61000-3-2, EN61000-3-3, EN55024
Remote control unit:	
Power supply:	3 V DC (Lithium CR2025 battery x 1)
Operating range:	Approx. 7 m (23')(when operated directly in front of signal receptor)
Weight:	18 g (0.6 ozs.) (including battery)
Dimensions:	
Width:	40 mm (1 9/16")
Height:	6.5 mm (1/4")
Length:	86 mm (3 3/8")

Wireless card

Compatibility:	IEEE 802.11, IEEE 802.11b
Transmission method:	DS-SS method (direct dispersion spectrum dispersion method)
Modulation method:	DBPSK:1 Mbps, DQPSK:2 Mbps CCK:5.5 Mbps, 11 Mbps
Diffusion coefficient:	10 or more
Data transmission speed:	1 Mbps / 2 Mbps / 5.5 Mbps / 11 Mbps
Output power:	5 mW/MHz
Input sensitivity:	-75 dBm: 11 Mbps(Min) -80 dBm: 5.5 Mbps(Min)
Transmission distance:	<Outdoors> 50 m (164'1") (11 Mbps) 80 m (263'1") (5.5 Mbps) 120 m (394'4") (1/2 Mbps) <Indoors> 30 m (98'5") (11 Mbps) 50 m (164'1") (5.5 Mbps) 80 m (263'1") (1/2 Mbps) However, this will vary depending on the operating environment.
Dimensions:	
Width:	54 mm (2 1/8")
Height:	5 mm (3/16")
Length:	114.5 mm (4 1/2")
Weight:	50 g (1.8 ozs.)

Refer to the table on page 5 also.

Options:

Wireless card	ET-CDWL1E ET-CDWL1ES (For Spain) ET-CDWL1SG (For Singapore) ET-CDWL1U (For Malaysia)
Ceiling bracket	ET-PK701
Full function remote control unit	ET-RM100

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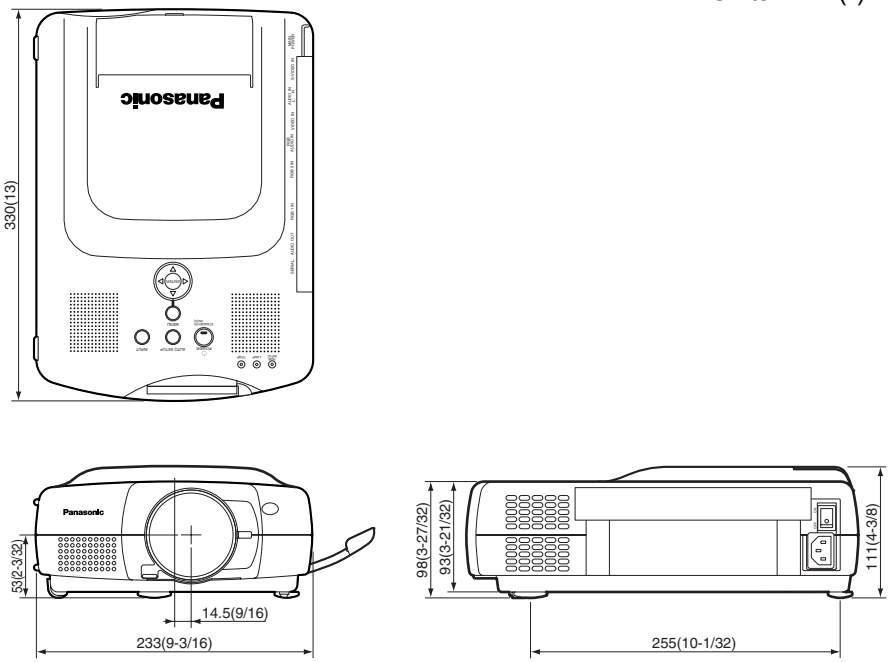
Dimensions

<Units: mm (")>



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